VG 704-L USER’S MANUAL

4 CHANNELS
NETWORK DIGITAL VIDEO RECORDER

INSTRUCTION MANUAL

To obtain the best performance and ensure device function correctly, please read this instruction manual carefully and completely.

FCC Compliance

USER-INSTALLER CAUTION: YOUR AUTHORITY TO OPERATE THIS FCC VERIFIED EQUIPMENT COULD BE VOIDED IF YOU MAKE CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE TO PART 15 OF THE FCC RULES.

NOTE: THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

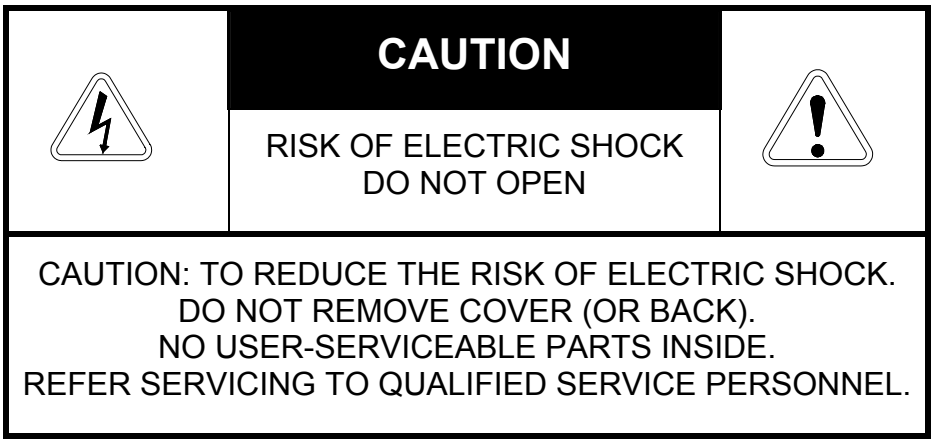
THIS CLASS A DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

Warnings and Cautions

WARINGS

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

CAUTION


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Explanation of Graphical Symbols

	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of insinuated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

USERS OF THE SYSTEM ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES CONCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS. ULTRAK SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS SYSTEM IN VIOLATION OF CURRENT LAWS AND STATUTES.

TABLE OF CONTENTS

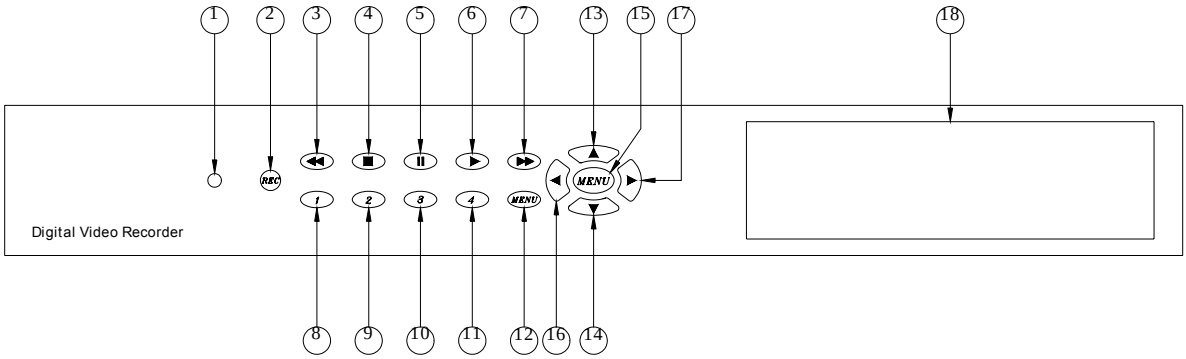
CHAPTER 1 INTRODUCTION

This product is 4 cameras input appliance with multiple function which will bring you following features:

- Device can be performed as VHS system with live display, play back and video recording
- Support various type of camera with real, live mode display
- Multi-speed recording selection on normal recording mode or alarm recording mode, the highest speed of recording is 30/25 (NTSC/PAL) fields on both mode
- Digitize data storage with M-JPEG compression technology will give you organized video data management without using mess huge traditional video tape
- Device operates in hardware base with no OS (operating system) necessary for more reliability and stability
- Contrast, hue and brightness are adjustable for each camera individually
- Support up to 2 hard disks (HDD) from 40GB to 120GB compatible
- Support for both color and monochrome cameras
- When external alarm is triggered , correspond cameras number will show up on the monitor with texts
- Motion detection function available, user can easily adjust sensitive of motion detection and to setup buzzer alarm when motions are triggered.
- Playback record can be searched by time or by event list.
- Selectable recording qualities (best/high/medium/low)
- Recording can operate manually or gets activated automatically when alarm is triggered
- You can search for a video record by time
- Play back mode could not be easier then ever for you to review the video that gets recorded on reverse (x6) and fast forwarding (×2, ×4, ×6)
- Play back mode with pause (field by field) for forward
- Easy operation, setting can be easily modified OSD (on screen display) menu
- Device will overwrites data and notice operator on monitor when the HDD is going full
- System will restore the previous setting and continue camera activity after restart
- Key lock function available to secure your DVR from button pressing accidentally.
- Optional network function

CHAPTER 2 Hardware Overview

Front Panel Layout Overview

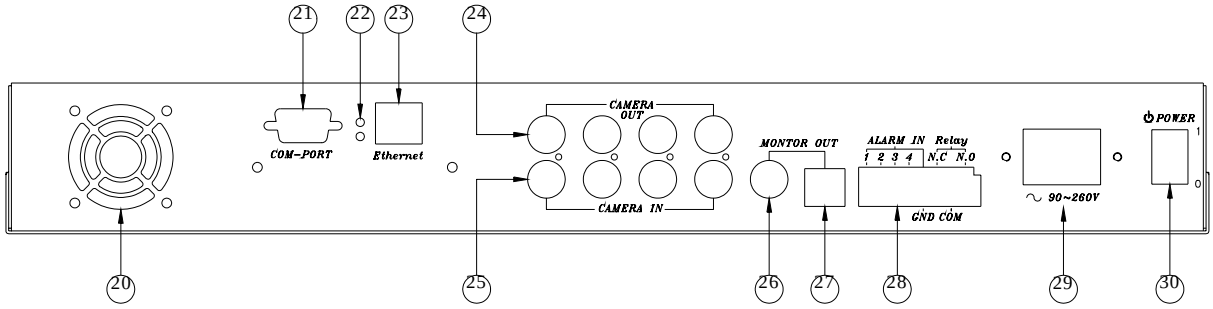


Buttons Function List

Part	Label	Function
1	POWER	Power status LED.
2	REC	Press REC to start recording.
3	◀◀ Rew Search	6 times speed fast rewind mode.
4	■ STOP	Press Stop to stop playback or recording.
5	II Pause	Press Pause to pause (field by field) for forward. You can easily lock your DVR by press 5 times Pause button under recording or monitoring mode. When key lock is activated, you can see a "L" show up on your upper right corner of screen. Press 5 times again to release your button from key lock mode.
6	▶ PLAY	Press the Play button to into time search and play video forward.
7	▶▶ F.Fwd Search	Press F. Fwd to play video forward at high speed. Press the button again the speed will be change circulative from ×2,×4, , to the highest ×6.
8	1	1. This View button controls FULL SCREEN display from camera 1. 2. A password can be setup by the view control button for number 1.
9	2	1. This View button controls FULL SCREEN display from camera 2. 2. A password can be setup by the view control button for number 2.
10	3	1. This View button controls FULL SCREEN display from camera 3. 2. A password can be setup by the view control button for number 3.
11	4	1. This View button controls FULL SCREEN display from camera 4. 2. A password can be setup by the view control button for number 4.
12	Mode	Quad screen: All cameras are displayed.

13	▲	1. Move the cursor upward or leftward. 2. When it's not under recording mode, you can use the button to adjust position of date & time display which appears on OSD
14	▼	1. Move the cursor downward or rightward. 2. When it's not under recording mode, you can use the button to adjust position of date & time display which appears on OSD
15	MENU	Press MENU to go into or exit menu.
16□17	◄ ► ENTER	1. Press ENTER button to make choose or make confirm in MENU system. 2. Make any changes in the selected option or increase the number. 3. You can use ENTER key to indicates H.D.D status when system is not under Menu mode.
18	H.D.D MOBILE RACK	Location of mobile rack hard drive.

Back Panel Layout Overview

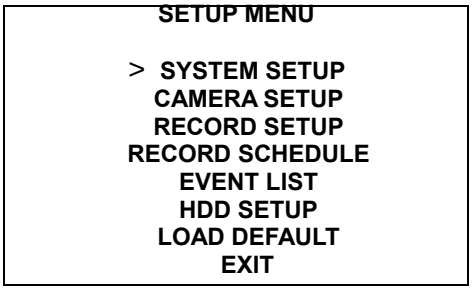


Back Panel Components Function List

Part	Label	Function
20	FAN	Fan.
21	COM PORT	COM port for RS-485 interfaces which upon to request.
22	LED	Network power indicator and network activate indicator.
23	ETHERNET	Ethernet network interface.
24	CAMERA OUT	Camera 1-4 video output with BNC connector.
25	CAMERA IN	Camera 1-4 video input with BNC connector.
26	MONITOR OUT (BACKUP VIDEO OUT)	Composite video output which support VCR backup devices.
27	MONITOR OUT	Y/C Video output for connection to a monitor directly.
28	ALARM IN / Relay	11-Pin Alarm input and Relay output connector.
29	POWER	AC90V~AC260V input.
30	POWER SW	Power ON/OFF switcher.

CHAPTER 3 SETUP PROCEDURES

1. MAIN MENU SETUP



Press the **MENU** button to go into the main menu.

Use the ▲ and ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press **MENU** to escape to exit the set up mode.

Contents:

① **SYSTEM SETUP**
System set up

② **CAMERA SETUP**
Camera set up

③ **RECORD SETUP**
Recording set up

④ **RECORD SCHEDULE**
Recording Schedule set up

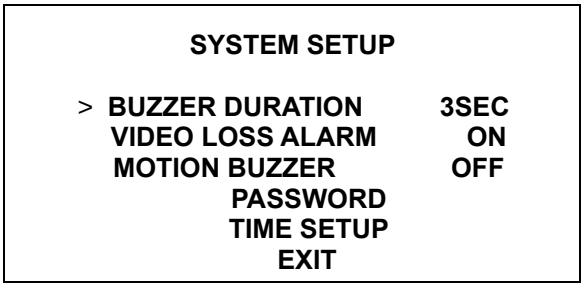
⑤ **EVENT LIST**
Event indexing

⑥ **HDD SETUP**
Hard disk set up

⑦ **LOAD DEFAULT**
Return to factory setting

⑧ **EXIT**
Escape from the setup menu

2. SYSTEM SETUP



Press the **MENU** button to go into the main menu.

Use the ▲ and ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press **MENU** to escape to exit the set up mode.

Contents:

① **BUZZER DURATION 3SEC (1-30)**
Use **ENTER** button to adjust the duration time of the buzzer action.

② **VIDEO LOSS ALARM**
On for default

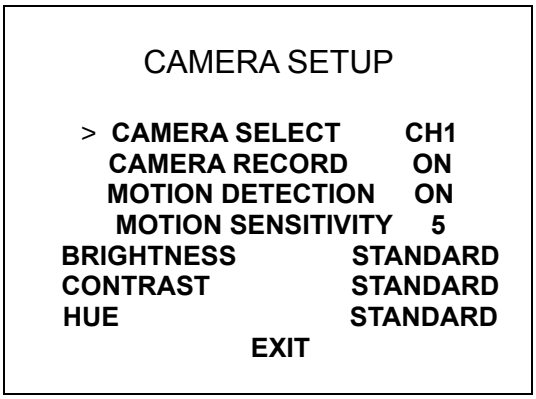
③ **MOTION BUZZER**
Off for default

④ **PASSWARD**
A password can be setup to protect the hard disk content. It needs to be entered in order to perform a hard disk format. Initial number is 1111.
Use the view control button on the front panel to input the number.

⑤ **TIME SETUP**
Use the ▲ and ▼ button to select items.
Press the ◄ or ► button to increase the number.

⑥ **EXIT**
Exit from the SYSTEM SETUP menu

3. CAMERA SETUP



Press the **MENU** button to go into the main menu.

Use the ▲ and ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press **MENU** to escape to exit the set up mode.

Contents:

① **CAMERA SELECT CH1(CH1~CH4)**
Use ◄ or ► button to select the camera from CAM 1 – CAM 4 to be adjusted.

② **CAMERA RECORD ON(ON/OFF)**
Use ◄ or ► button to select ON/OFF recording.

③ **MOTION DETECTION ON(ON/OFF)**
Use ◄ or ► button to select ON/OFF motion detection.

④ **MOTION SENSITIVITY(1~10)**
Use ◄ or ► button to adjust sensitivity of motion detection for selected camera. Initial number from 1 to 10, default value is 5(STANDARD).

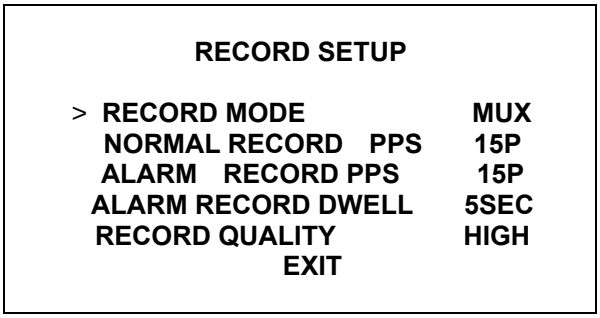
⑤ **BRIGHTNESS STANDARD(1~10)**
Use ◄ or ► button to adjust the brightness of the selected camera. Initial number is 5 (STANDARD).

⑥ **CONTRAST STANDARD(1~10)**
Use ◄ or ► button to adjust the contrast of the selected camera. Initial number is 5 (STANDARD).

⑦ **HUE STANDARD(1~10)**
Use ◄ or ► button to adjust the hue of the selected camera. Initial number is 5 (STANDARD).

⑧ **EXIT**
Exit from the **CAMERA SETUP** menu

4. RECORD SETUP



Press the **MENU** button to go into the main menu.

Use the ▲ and ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press **MENU** to escape to exit the set up mode.

Contents:

① **RECORD MODE MUX(MUX/QUAD)**
Use ◄ or ► button to select MUX or QUAD recording.

② **NORMAL RECORD PPS 15P (1~5P/7P/10P/15P/30P)**
Use ◄ or ► button to select recording speed.
15P means 15 fields per second, 30P is the highest speed, and 1P is the lowest. There are a total of nine speeds you can choose from. (PPS: Picture per second)
Note: PAL: (1~4P/6P/8P/12P/25P) NTSC=15P, PAL=12P on default.

③ **ALARM RECORD PPS 15P (1~5P/7P/10P/15P/30P)**
Use ◄ or ► button to select alarm recording speed when external alarm or motion detection is triggered.
Note: PAL: (1~4P/6P/8P/12P/25P) NTSC=15P, PAL=12P on default.

④ **ALARM RECORD DWELL 5SEC (1-30)**

Use ◄ or ► button to set the dwell time for alarm recording when external alarm or motion. When external alarm is triggered and within the dwell period:

- the screen will be switched into 4 format.
- the corresponding camera will be marked ID "EXT" .

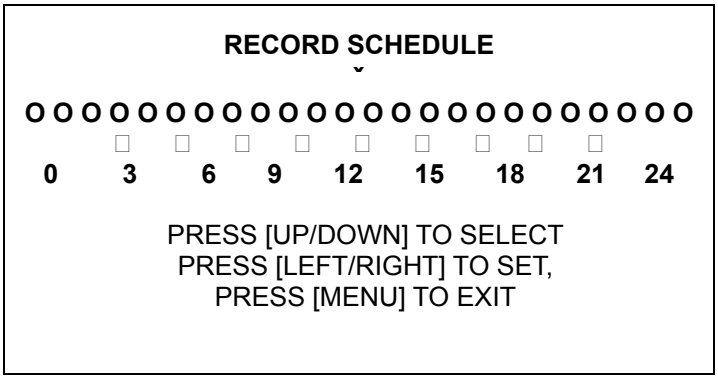
⑤ **RECORD QUALITY HIGH(BEST/HIGH/MEDIUM/LOW)**

Use ◄ or ► button to select the BEST, HIGH, MEDIUM or LOW setting so there is a total of four levels of recording quality that can be chosen from. The higher the quality, the higher the amount of storage will be consumed. Thus, this setting should be carefully chosen as it will affect the usage of hard disk storage. A table of relationship between quality, record speed and hard disks is attached for reference.

⑥ **EXIT**

Exit from the **RECORD SETUP** menu

5. RECORD SCHEDULE


RECORD SCHEDULE
O O O O O O O O O O O O O O O O O O O O O O O O
0 3 6 9 12 15 18 21 24
PRESS [UP/DOWN] TO SELECT
PRESS [LEFT/RIGHT] TO SET,
PRESS [MENU] TO EXIT

Press the ◄ or ► button to go into the main menu.

Use the ▲ and ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press **MENU** to escape to exit the set up mode.

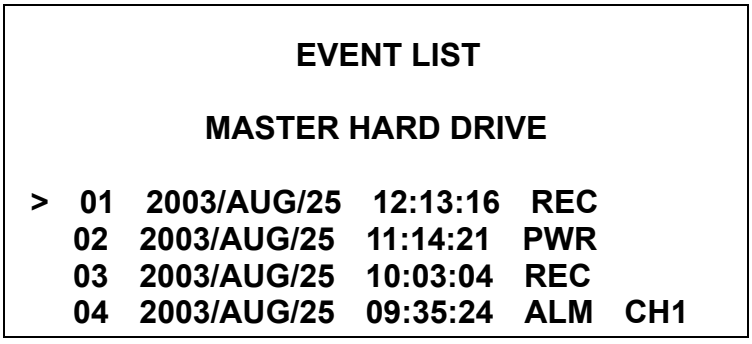
Contents:

① **RECORD SCHEDULE**

There are 24 circles in the schedule table, which represent 24 hours.
Every circles has 3 options to select:
O : represents "fully record"
X : represents "no record"
A : represents "alarm record"
Use the ▲ and ▼ button to select items.
Press ◄ or ► button to select the **O**/ **X / A** (Fully / No / Alarm Record).

6. EVENT LIST

Press "◄ or ►" key on "EVENT LIST" than windows will appear as below:



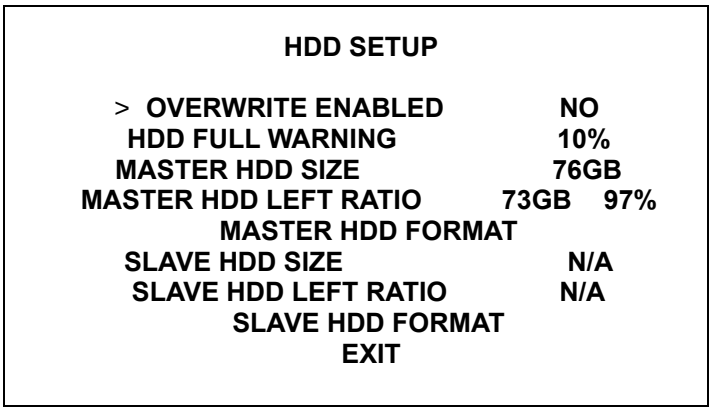
Use " ▲ " key or " ▼ " key to select event which needs to be played□location of " > " symbol will move up and down for indicating current event which been selected. Press "◄ or ►" key to select events storage from master hard drive or slave hard drive. When once selection has been made and than press ►**PLAY** key

to start playing records in normal speed.

There are totally 3 different type's event will be recorded:

1. **REC Event when start recording by press "REC" key.**
2. **PWR System will event up from power interruption after restarting.**
3. **ALM When external alarm was triggered, event up with alarm number.**

7. HDD SETUP



Press the **MENU** button to go into the main menu.

Use the ▲ and ▼ button to select items.

Press the ◄ or ► button to confirm the selection.

Press **MENU** to escape to exit the set up mode.

Contents:

① **OVERWRITE ENABLED YES (NO)**

Use ◄ or ► button to enable or disable overwriting when HDD is full.
When HDD overwrite is enabled, the oldest partition on the HDD will automatically be reused, that means the oldest images will be overwritten by the current images.
When overwrite mode is disabled, the HDD Full Warning percentage selection will be appeared and need to be configured.

② **HDD FULL WARNING 10% (5% / 10% / 15% / 20%)**

Use ◄ or ► button to select one of the four settings (5% / 10% / 15% / 20%).
The default is 10%. The buzzer will turn on when free space left in the HDD go below the set value and it will on again when the total free space left go below 5%.

③ **MASTER HDD SIZE 76GB**

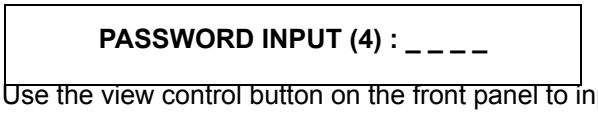
The master HDD size sign will be indicated in left on the screen, It can't be revised.

④ **MASTER HDD LEFT RATIO 73GB 97%**

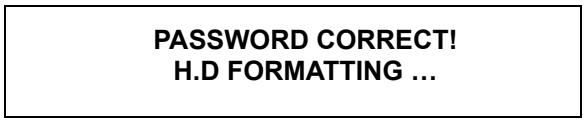
The master HDD left ratio sign will be indicated in left on the screen, It can't be revised.

⑤ **MASTER HDD FORMAT**

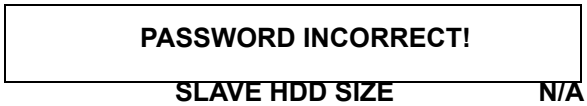
Use **ENTER** button to enter the **MASTER HDD FORMAT** menu.



Use the view control button on the front panel to input the number.
When you key in the correct password, the screen will be displayed the following message:



Otherwise, the following error message will be displayed on the screen:



⑥ **SLAVE HDD SIZE N/A**

The slave HDD size sign will be indicated in left on the screen, It can't be revised. HDD N/A is with no HDD.

⑦ **SLAVE HDD LEFT RATIO N/A**

The slave HDD left ratio sign will be indicated in left on the screen, It can't be revised. HDD N/A is with no HDD.

⑧ **SLAVE HDD FORMAT**
Same with MASTER HDD FORMAT.

⑨ **EXIT**
Escape from the **HDD SETUP** menu.

8. LOAD DEFAULT

Use the ◄ or ► button to return to the factory default. This will clear all the user settings and replace it with the original default parameters (The HDD Password and Schedule Record can't be defaulted here).

9. EXIT

Exit from the **SETUP MENU**.

CHAPTER 4 OPERATION PROCEDURES

1. Getting Started with your machine

Please assure the following instructions before you switch on the machine:

1.1 Voltage check: Before power cable is connected, please check the voltage of this appliance against the supply. Two Voltages options, 90~260V, can be selected at the back of the machine.

CAUTION - Damage would be caused if incorrect power voltage applied.

1.2 Hard Disk connection: Make sure the 40-Pin Hard Disk Data cable and the 4-Pin power connectors are properly connected.

2. Recording

Press the **●REC** key to enter the Recording Mode. And press the **■STOP** key to stop recording.

- "REC[M]" or "REC[Q]" sign will be indicated in top left corner on the screen, It mean you select MUX or QUAD recording.
- "15P" sign will be indicated in top right corner on the screen, It mean the recording speed you selected. 15P means 15 fields per second.
- "O" sign will be indicated in center corner on the screen, It mean the marked channel be recorded.

❖ For more information on Setting up Recording Mode, refer to Chapter 3 Recording Setup (page 7).

❖ In Recording Mode, if there is a power failure or power lost for any reasons that cause a shut down of this machine, it will be back to the Recording Mode automatically when power restored.

3. Playback

Press the **►PLAY** button to into time search.

The following message will be displayed on the screen (The list of MASTER HARD DRIVE means the time it start and end be recorded at this HDD).

SEARCH TIME

2003/JUN/13 04:12:03

MASTER HARD DRIVE
(2003/MAY/13 04:12:03)
(2003/MAY/13 04:12:03)

Use the ▲ and ▼ button to select items.

Press the ◄ or ► button to increase the number.

Press **MENU** to escape to exit the set up mode.

Press **►PLAY** button to play video forward.

- "PLAY" sign will be indicated in top left corner on the screen.
- "MUX or QUAD" sign will be indicated in top right corner on the screen, It mean the recording mode you selected.

Press **◄◄Rew Search** button to play video reverse at 6 times speed fast rewind mode.

Press **▶▶F.Fwd Search** button to play video forward at high speed. Press the button again the speed will be change circulative from ×2,×4, , to the highest ×6.

- "REW" or "FF*2/4/6" sign will be indicated in top left corner on the screen.

Press **II▶Pause** button to pause (field by field) for forward. This function can be used in full screen and quad mode (If you choose QUAD in recording mode than it can't playback in full screen).

- "PAUSE" sign will be indicated in top left corner on the screen.

Press the **■STOP** button to leave playback mode and resume the Live Mode.

Attention□When overwrite mode is enabled with 2 hard drives, drive which is overwriting will cause recording time being divided to 2 periods as picture below:

There will be 2 periods of time as RECORD SEGMENT 1 and RECORD SEGMENT 2 in master drive which means the oldest data and newest data both existing on the same hard drive.

Above rules will also apply to slave hard drive.

4. Hard disk recommend

Maximum 2 pieces and at lease one hard disk should be connect, the capacity of hard disk from 40GB to 120GB for each.

When you restart the power of this appliance after install or replace new hard disk it will be format automatically, we been tested the follow model of hard disk and recommend you use when you install by yourself.

Brand	Model	Capacity	Speed (rpm)
Seagate	ST3120023A	120GB	7200 rpm
Seagate	ST380020A	80GB	7200 rpm
Maxtor	6Y120L0	120GB	7200 rpm
Maxtor	6Y080L0	80GB	7200 rpm

5. Backup

The DVR Provides composite signal output for back -up use. You can keep the Image data, and simply just connected **BNC** connector, at the Back Panel of, with **MONITOR OUT** Connector. Press VCR REC button, after decided what recording data need to keep, during Play-Back Mode.

6. Alarm control

There are three types of alarms that the system can be configured to handle. They are 1.external alarm, 2.video lost alarm and alarm of 3.motion detection.

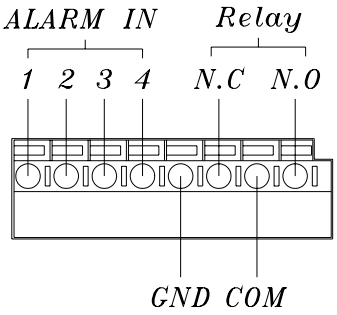
When 1 and 3 types of alarm were triggered, it changes recording speed as alarm recording speed. Video Lost alarm is enabled as default and cannot be changed. The buzzer will action and "V.LOSS" sign will be indicated on the screen.

7. External alarm connector

External alarm functions only when DVR been set under recording mode. 4 input ports to receive signals from external alarm and GND port for termination. When external alarm is triggered, currents will be grounded through GND port to activate the external alarm.

a. Texts "ALM" will be displayed on OSD corresponding channel.
b. Relay action.
c. Recording speed will be switch from normal mode to alarm mode (refer to chapter 4 about recording setting).
d. If setting "A" has been set in schedule recording, will only perform recording when alarm is triggered during schedule "A" period.

Terminal connector□



Pin 1-4	----- ALARM1-ALARM4□Camera alarm input.
GND	----- GND
N.C	----- Relay N.C□Alarm output N.C
COM	----- Relay COM
N.O	----- Relay N.O□Alarm output N.O

8. Network

Network function is optional, please ensure that you have proper DVR model for network installation. Network setup in this DVR can be done only by TCP/IP network remote computer. With network function the DVR will support remote recording and remote surveillance. Please refer to network setup manual for instructions.

SPCIFICATIONS

Image System		NTSC	PAL
Resolution	Display	720×480	720×576
	Record	640×224	640×272
Video Input		BNC × 4	
Video Looping output		BNC × 4	
Video Output		BNC × 1	
Display Frame		4 × 30 fields/sec	4 × 25 fields/sec
Recording Frame Rate (QUAD)		Max 30 pps	Max 25 pps
Recording Frame Rate (MUX)		Max 30 / 4 pps	Max 25 / 4 pps
Storage Media		Max 2 IDE Hard Disks	
Image Format		M-JPEG	
Compress Rate		Low 8K bytes/field Medium 10K bytes/field High 15K bytes/field Best 20K bytes/field	
Recording Mode		Manual / Alarm / Schedule	
Playback Speed		Fast Forward ×2 ×4 ×6 / Fast Reverse ×6 Frame by Frame Forward Playback	
On Screen Display & Setup		Time/Date/Setup Menu	
Alarm Input		×4	
Relay Output		NO or NC Programmable Contact ×1	
Password Control		One for HDD format	
Event List		Max. 63 records/H.D.D	
Motion Detection		Yes	
Buzzer		Yes	
Video loss		Yes	
Key Lock		Yes	
Network Function		Optional	
Power Input		AC 90-260 V Input (60/50 Hz)	
Dimensions		55mm (H) × 432mm (W) × 321mm (D)	
Weight kg		4.5kg (w/o H.D)	

CHAPTER 5 RECORDING TIME LENGTH

Recording time length is related to recording speed and recording quality. Tables below are offered for your reference.

Record Mode=MUX

Record Mode=QUAD

Recording length under quad mode will shorter than multiplex mode and PAL will shorter than NTSC.

80GB H.D.D Record Mode=MUX										
NTSC Field/Sec		**30/FS**	**15/FS**	**10/FS**	**7/FS**	**5/FS**	**4/FS**	**3/FS**	**2/FS**	**1/FS**
Recording Quality	**maximum**	38 hr	76 hr	114 hr	160hr	228hr	285hr	380 hr	570 hr	1140hr
	high	57 hr	114Hr	171hr	240hr	342hr	428hr	570 hr	855 hr	1710hr
	medium	71 hr	142hr	213hr	298hr	426hr	532hr	710 hr	1065hr	2130hr
	low	100hr	200hr	300hr	420hr	600hr	750hr	1000hr	1500hr	3000hr

80GB H.D.D Record Mode=QUAD										
NTSC Field/Sec		**30/FS**	**15/FS**	**10/FS**	**7/FS**	**5/FS**	**4/FS**	**3/FS**	**2/FS**	**1/FS**
Recording Quality	**maximum**	19 hr	38 hr	57 hr	80 hr	114hr	142hr	190hr	285hr	570 hr
	high	29 hr	57 Hr	87 hr	120hr	171hr	214hr	285hr	426hr	870 hr
	medium	35 hr	70 hr	105 hr	148hr	213hr	266hr	350hr	532hr	1050hr
	low	50 hr	100 hr	150 hr	208hr	300hr	375hr	500hr	750hr	1500hr

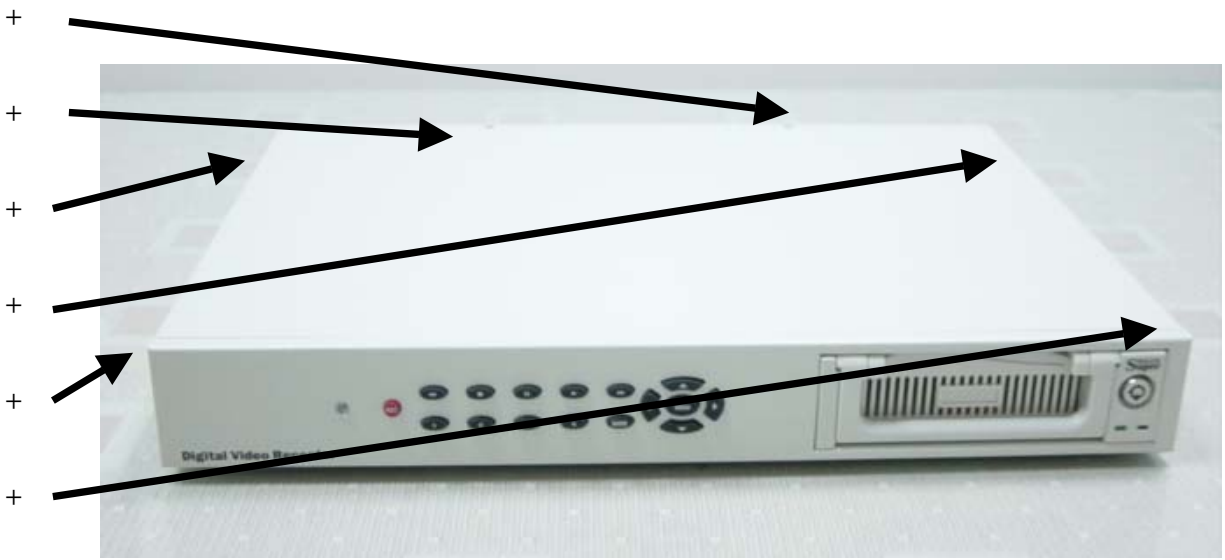
80GB H.D.D Record Mode=MUX									
PAL Field/Sec		**25/FS**	**12/FS**	**8/FS**	**6/FS**	**4/FS**	**3/FS**	**2/FS**	**1/FS**
Recording Quality	**maximum**	35 hr	72 hr	110 hr	145 hr	218 hr	291 hr	437 hr	875 hr
	high	46 hr	95 hr	144 hr	190 hr	287 hr	383 hr	575 hr	1150 hr
	medium	67 hr	139 hr	209 hr	278 hr	418 hr	558 hr	837 hr	1675 hr
	low	98 hr	204 hr	306 hr	408 hr	612 hr	816 hr	1225hr	2450hr

80GB H.D.D Record Mode=QUAD									
PAL Field/Sec		**25/FS**	**12/FS**	**8/FS**	**6/FS**	**4/FS**	**3/FS**	**2/FS**	**1/FS**
Recording Quality	**maximum**	12 hr	25 hr	37 hr	50 hr	75 hr	100 hr	150 hr	300 hr
	high	16 hr	33 hr	50 hr	66 hr	100 hr	133 hr	200 hr	400 hr
	medium	23 hr	48 hr	72 hr	95 hr	143 hr	191 hr	287 hr	575 hr
	low	34 hr	70 hr	106 hr	141 hr	212 hr	283 hr	425 hr	850 hr

CHAPTER 6 HARD DRIVE INSTALLATION PROCEDURES

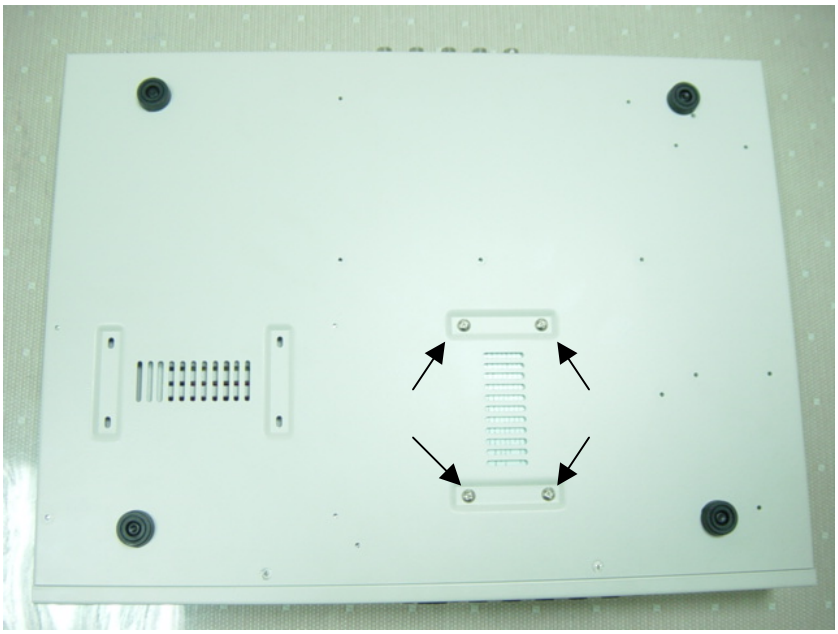
1. Please have your tool kits ready before start this procedure. Remove DVR top cover by taking out 6 screws from location shown below:

Hard drive jumpers need to be set properly in order to make DVR function correctly. Instructions below are for second hard drive installation. If you prefer to have only one drive, please ignore instruction below.



2. Below picture indicates DVR which one without a H.D.D installed.

3. Please refer to the instruction from hard drive manufactory for correct jumper setting on (master /slave) mode of the hard drive, mounting the hard drive over DVR base by facing IDE interface to DVR main board. Match screw holes from bottom to bottom of hard drive and the DVR. Turn over the DVR from top to bottom side and then mounting up the hard drive by using screws from attached accessory pack as picture below:



4. Hooking up IDE cable and power cable to the hard drive as picture below, please take a note on that the red line on IDE cable must be next to power cable in order to have correct instillation.
5. This DVR supports maxima 2 hard drives, please take a note on cable length that you use to hook up with the hard drive.

6. Restore top cover then hook up with power and monitor a hard drive status message will appear if it's been installed successful.

Attentions

1. Hard drive master and slave mode must be set correctly.
2. Primary hard drive must be set as master and slave for secondary.
3. Make sure power cable is unplugged before hard drive installation starts.
4. IDE cable and power cable must be hooking up correctly.